Contents of Volume 55

Vol. 55, No. 1 May (I) 2004

Identification of powdery mildew-induced barley genes by cDNA-AFLP: functional assessment of an early expressed MAP kinase
C. Eckey, M. Korell, K. Leib, D. Biedenkopf, C. Jansen, G. Langen, K.-H. Kogel 1–15

EST-analysis of the thermo-acidophilic red microalga *Galdieria sulphuraria* reveals potential for lipid A biosynthesis and unveils the pathway of carbon export from rhodoplasts
A.P.M. Weber, C. Oesterhelt, W. Gross, A. Bräutigam, L.A. Imboden, I. Krassovskaya, N. Linka, J. Truchina, J. Schneidereit, H. Voll, L.M. Voll, M. Zimmermann, A. Jamai, W.R. Riekhof, B. Yu, R.M. Garavito, C. Benning 17–32

Tissue distribution of cholinesterases and anticholinesterases in native and transgenic tomato plants
S.P. Fletcher, B.C. Geyer, A. Smith, T. Evron, L. Joshi, H. Soreq, T.S. Mor 33–43

Defining subdomains of the K domain important for protein–protein interactions of plant MADS proteins
Y. Yang, T. Jack 45–59

The ethylene-responsive factor like protein 1 (CaERFLP1) of hot pepper (*Capsicum annuum* L.) interacts *in vitro* with both GCC and DRE/CRT sequences with different binding affinities: Possible biological roles of CaERFLP1 in response to pathogen infection and high salinity conditions in transgenic tobacco plants
J.-H. Lee, J.-P. Hong, S.-K. Oh, S. Lee, D. Choi, W.T. Kim 61–81

RNase activity requires formation of disulfide bonds and is regulated by the redox state
Z. Chen, J. Ling, D.R. Gallie 83–96

Maize recombinant non-C_4 NADP-malic enzyme: A novel dimeric malic enzyme with high specific activity
M. Saigo, F.P. Bologna, V.G. Maurino, E. Detarsio, C.S. Andreo, M.F. Drincovich 97–107

Proteomic approach: Identification of *Medicago truncatula* proteins induced in roots after infection with the pathogenic oomycete *Aphanomyces euteiches*
F. Colditz, O. Nyamsuren, K. Niehaus, H. Eubel, H.-P. Braun, F. Krajinski 109–120

A site-directed mutagenesis interrogation of the carboxy-terminal end of *Arabidopsis thaliana* threonine dehydratase/deaminase reveals a synergistic interaction between two effector-binding sites and contributes to the development of a novel selectable marker
E.L. Garcia, G.S. Mourad 121–134

Rapid one-step protein purification from plant material using the eight-amino acid StrepII epitope
C.-P. Witte, L.D. Noël, J. Gielbert, J.E. Parker, T. Romeis 135–147

Vol. 55, No. 2 May (I) 2004

Meeting report

Fighting geminiviruses by RNAi and vice versa
M.M. Pooggin, T. Hohn 149–152

Regular articles

Functional characterization of tobacco transcription factor TGA2.1
C. Kegler, I. Lenk, S. Krawczyk, R. Scholz, C. Gatz 153–164

Spatial and temporal analysis of the local response to wounding in *Arabidopsis* leaves
C. Delessert, I.W. Wilson, D. Van Der Straeten, E.S. Dennis, R. Dolferus 165–181

Ectopic overexpression of tomato *JERF3* in tobacco activates downstream gene expression and enhances salt tolerance
H. Wang, Z. Huang, Q. Chen, Z. Zhang, H. Zhang, Y. Wu, D. Huang, R. Huang 183–192

Gamma carbonic anhydrases in plant mitochondria
G. Parisi, M. Perales, M.S. Fornasari, A. Colaneri, N. González-Schain, D. Gómez-Casati, S. Zimmermann, A. Brennicke, A. Araya, J.G. Ferry, J. Echave, E. Zabaleta 193–207

Characterization of *HoMADS1* and its induction by plant hormones during *in vitro* ovule development in *Hyacinthus orientalis* L.
H.Y. Xu, X. Guo Li, Q. Zi Li, S. Nong Bai, W. Liang Lu, X. Sheng Zhang 209–220

Interaction of PvALF and VP1 B3 domains with the *β-phaseolin* promoter
R. Carranco, M.B. Chandrasekharan, J.C. Townsend, T.C. Hall 221–237

Interaction of maize Opaque-2 and the transcriptional co-activators GCN5 and ADA2, in the modulation of transcriptional activity
R.A. Bhat, J.W. Borst, M. Riehl, R.D. Thompson 239–252

Modulation of flowering responses in different *Nicotiana* varieties
P. Smykal, R. Gleissner, L. Corbesier, K. Apel, S. Melzer 253–262

Identification of genes preferentially expressed during wood formation in *Eucalyptus*
E. Paux, M. Tamasloukht, N. Ladouce, P. Sivadon, J. Grima-Pettenati 263–280

A novel alkaline α-galactosidase gene is involved in rice leaf senescence
R.-H. Lee, M.-C. Lin, S.-C. Grace Chen 281–295

ACBP4 and ACBP5, novel *Arabidopsis* acyl-CoA-binding proteins with kelch motifs that bind oleoyl-CoA
K.-C. Leung, H.-Y. Li, G. Mishra, M.-L. Chye 297–309

Vol. 55, No. 3 May (II) 2004

Letter to the editor

Nomenclature for members of the expansin superfamily of genes and proteins
H. Kende, K.J. Bradford, D.A. Brummell, H.-T. Cho, D.J. Cosgrove, A.J. Fleming, C. Gehring, Y. Lee, S. McQueen-Mason, J.K.C. Rose, L.A.C.J. Voesenek 311–314

Regular articles

The root-specific glutamate decarboxylase (GAD1) is essential for sustaining GABA levels in *Arabidopsis*
N. Bouché, A. Fait, M. Zik, H. Fromm 315–325

Crosstalk in the responses to abiotic and biotic stresses in *Arabidopsis*: Analysis of gene expression in *cytochrome P450* gene superfamily by cDNA microarray
Y. Narusaka, M. Narusaka, M. Seki, T. Umezawa, J. Ishida, M. Nakajima, A. Enju, K. Shinozaki 327–342

Functional genomic analysis of *Arabidopsis thaliana* glycoside hydrolase family 1
Z. Xu, L.L. Escamilla-Treviño, L. Zeng, M. Lalgondar, D.R. Bevan, B.S.J. Winkel, A. Mohamed, C.-L. Cheng, M.-C. Shih, J.E. Poulton, A. Esen 343–367

Characterisation of Mal d 1-related genes in *Malus*
L.L. Beuning, J.H. Bowen, H.A. Persson, D. Barraclough, S. Bulley, E.A. MacRae 369–388

ENHANCER* of *TRY* and *CPC 2* (*ETC2*) reveals redundancy in the region-specific control of trichome development of *Arabidopsis
V. Kirik, M. Simon, K. Wester, J. Schiefelbein, M. Hulskamp 389–398

Hv-WRKY38: a new transcription factor involved in cold- and drought-response in barley
C. Marè, E. Mazzucotelli, C. Crosatti, E. Francia, A.M. Stanca, L. Cattivelli 399–416

An auxin-responsive SCARECROW-like transcriptional activator interacts with histone deacetylase
M.-J. Gao, I.A.P. Parkin, D.J. Lydiate, A. Hannoufa 417–431

***Arabidopsis* whole-transcriptome profiling defines the features of coordinated regulations that occur during secondary growth**
J.-H. Ko, K.-H. Han 433–453

Characterization and structural features of a chalcone synthase mutation in a white-flowering line of *Matthiola incana* R. Br. (Brassicaceae)
V. Hemleben, A. Dressel, B. Epping, R. Lukačin, S. Martens, M.B. Austin 455–465

Vol. 55, No. 4 July (I) 2004

Short communication

Identification of more than 200 glucose-responsive *Arabidopsis* genes none of which responds to 3-O-methylglucose or 6-deoxyglucose
D. Villadsen, S.M. Smith 467–477

Regular articles

Generation of fertile transplastomic soybean
N. Dufourmantel, B. Pelissier, F. Garçon, G. Peltier, J.-M. Ferullo, G. Tissot 479–489

PVX-Cre-mediated marker gene elimination from transgenic plants
L. Kopertekh, G. Jüttner, J. Schiemann 491–500

Study of *Arabidopsis thaliana* resistome in response to cucumber mosaic virus infection using whole genome microarray
R. Marathe, Z. Guan, R. Anandalakshmi, H. Zhao, S.P. Dinesh-Kumar 501–520

Chalcone synthase as a reporter in virus-induced gene silencing studies of flower senescence
J.-C. Chen, C.-Z. Jiang, T.E. Gookin, D.A. Hunter, D.G. Clark, M.S. Reid 521–530

***Agrobacterium tumefaciens*-mediated transformation of plants by the pTF-FC2 plasmid is efficient and strictly dependent on the MobA protein**
T. Dube, I. Kovalchuk, B. Hohn, J.A. Thomson 531–539

OsCDPK13, a calcium-dependent protein kinase gene from rice, is induced by cold and gibberellin in rice leaf sheath
F. Abbasi, H. Onodera, S. Toki, H. Tanaka, S. Komatsu 541–552

Identification of mycorrhiza-regulated genes with arbuscule development-related expression profile
U. Grunwald, O. Nyamsuren, M. Tamasloukht, L. Lapopin, A. Becker, P. Mann, V. Gianinazzi-Pearson, F. Krajinski, P. Franken 553–566

The *AtPPT1* gene encoding 4-hydroxybenzoate polyprenyl diphosphate transferase in ubiquinone biosynthesis is required for embryo development in *Arabidopsis thaliana*
K. Okada, K. Ohara, K. Yazaki, K. Nozaki, N. Uchida, M. Kawamukai, H. Nojiri, H. Yamane 567–577

Remorins form a novel family of coiled coil-forming oligomeric and filamentous proteins associated with apical, vascular and embryonic tissues in plants
P.A. Bariola, D. Retelska, A. Stasiak, R.A. Kammerer, A. Fleming, M. Hijri, S. Frank, E.E. Farmer 579–594

Ribosomal RNA processing and an RNase R family member in chloroplasts of Arabidopsis
M. Kishine, A. Takabayashi, Y. Munekage, T. Shikanai, T. Endo, F. Sato 595–606

Overexpression of the AP2/EREBP transcription factor OPBP1 enhances disease resistance and salt tolerance in tobacco
Z.-J. Guo, X.-J. Chen, X.-L. Wu, J.-Q. Ling, P. Xu 607–618

Vol. 55, No. 5 July (II) 2004

Antisense suppression of thioredoxin *h* mRNA in *Brassica napus cv.* Westar pistils causes a low level constitutive pollen rejection response
Y.Z. Haffani, T. Gaude, J.M. Cock, D.R. Goring 619–630

A genetic and structural analysis of the *N*-glycosylation capabilities of rice and other monocotyledons
R. Léonard, D. Kolarich, K. Paschinger, F. Altmann, I.B.H. Wilson 631–644

Expression of a yeast acetyl CoA hydrolase in the mitochondrion of tobacco plants inhibits growth and restricts photosynthesis
L. Bender-Machado, M. Bäuerlein, F. Carrari, N. Schauer, A. Lytovchenko, Y. Gibon, A.A. Kelly, M.E. Loureiro, B. Müller-Röber, L. Willmitzer, A.R. Fernie 645–662

The homeobox genes *ATHB12* and *ATHB7* encode potential regulators of growth in response to water deficit in *Arabidopsis*
A.S.B. Olsson, P. Engström, E. Söderman 663–677

A mutation in the *Cap Binding Protein 20* gene confers drought tolerance to *Arabidopsis*
I. Papp, L.A. Mur, Á. Dalmadi, S. Dulai, C. Koncz 679–686

A role of *OsGA20ox1*, encoding an isoform of gibberellin 20-oxidase, for regulation of plant stature in rice
T. Oikawa, M. Koshioka, K. Kojima, H. Yoshida, M. Kawata 687–700

Constitutive expression of pea *Lhcb1–2* in tobacco affects plant development, morphology and photosynthetic capacity
M.T.V. Labate, K. Ko, Z.W. Ko, L.S.R.C. Pinto, M.J.U.D. Real, M.R. Romano, P.R. Barja, A. Granell, G. Friso, K.J. van Wijk, E. Brugnoli, C.A. Labate 701–714

Silencing of the pollen-specific gene NTP303 and its family members in tobacco affects *in vivo* pollen tube growth and results in male sterile plants
P. de Groot, K. Weterings, M. de Been, F. Wittink, R. Hulzink, J. Custers, M. van Herpen, G. Wullems 715–726

Transcriptional regulation and functional properties of *Arabidopsis* Pht1;4, a high affinity transporter contributing greatly to phosphate uptake in phosphate deprived plants
J. Misson, M.-C. Thibaud, N. Bechtold, K. Raghothama, L. Nussaume 727–741

Methyl jasmonate induced expression of the tobacco putrescine *N*-methyltransferase genes requires both G-box and GCC-motif elements
B. Xu, M.P. Timko 743–761

Vol. 55, No. 6 August 2004

A strawberry fruit-specific and ripening-related gene codes for a HyPRP protein involved in polyphenol anchoring
R. Blanco-Portales, J.A. López-Raéz, M.L. Bellido, E. Moyano, G. Dorado, J.A. González-Reyes, J.L. Caballero, J. Muñoz-Blanco 763–780

Different subcellular localization and trafficking properties of KNOX class 1 homeodomain proteins from rice
S.J.H. Kuijt, G.E.M. Lamers, S. Rueb, E. Scarpella, P.B.F. Ouwerkerk, H.P. Spaink, A.H. Meijer 781–796

Activation of the oxidative burst by yeast elicitor in *Catharanthus roseus* cells occurs independently of the activation of genes involved in alkaloid biosynthesis
B. Pauw, B. van Duijn, J.W. Kijne, J. Memelink 797–805

Isolation and analysis of water stress induced genes in maize seedlings by subtractive PCR and cDNA macroarray
J. Zheng, J. Zhao, Y. Tao, J. Wang, Y. Liu, J. Fu, Y. Jin, P. Gao, J. Zhang, Y. Bai, G. Wang 807–823

Tomato stress-responsive factor TSRF1 interacts with ethylene responsive element GCC box and regulates pathogen resistance to *Ralstonia solanacearum*
H. Zhang, D. Zhang, J. Chen, Y. Yang, Z. Huang, D. Huang, X.-C. Wang, R. Huang 825–834

Suppression of phenylalanine ammonia lyase expression in sugar beet by the fungal pathogen *Cercospora beticola* is mediated at the core promoter of the gene
K. Schmidt, B. Heberle, J. Kurrasch, R. Nehls, D.J. Stahl 835–852

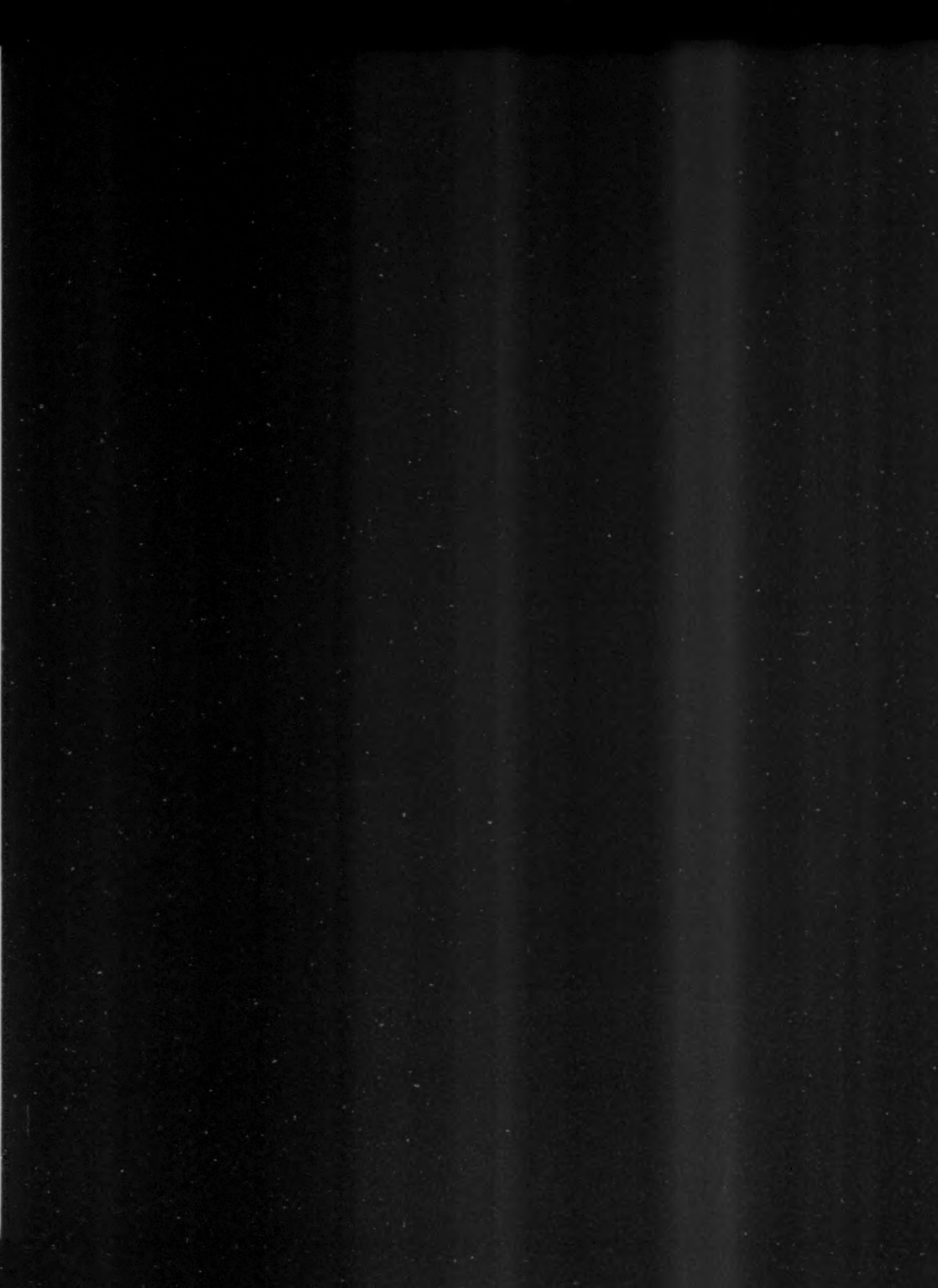
Targets of the WRKY53 transcription factor and its role during leaf senescence in *Arabidopsis*
Y. Miao, T. Laun, P. Zimmermann, U. Zentgraf 853–867

Monitoring dynamic expression of nuclear genes in *Chlamydomonas reinhardtii* by using a synthetic luciferase reporter gene
M. Fuhrmann, A. Hausherr, L. Ferbitz, T. Schödl, M. Heitzer, P. Hegemann 869–881

CAZFP1*, Cys_2/His_2-type zinc-finger transcription factor gene functions as a pathogen-induced early-defense gene in *Capsicum annuum
S.H. Kim, J.K. Hong, S.C. Lee, K.H. Sohn, H.W. Jung, B.K. Hwang 883–904

Characterization of an unusual *Ds* transposable element in *Arabidopsis thaliana*: insertion of an abortive circular transposition intermediate
X. Yang, H. Ma, C.A. Makaroff 905–917

Instructions for authors 919–922

Volume contents 923–928

Author index 929–930